REMARKS

Applicants appreciate the thorough examination of the present application that is evidenced in the Official Action of September 19, 2005 (the "Official Action"). Applicants note with appreciation the Examiner's statement that Claims 5-9 would be allowable if rewritten in independent form.

A. Status of the Claims

Claims 1-15 are pending in the present application. Claims 1-2, 10 and 13-15 stand rejected under 35 USC § 102(a) as anticipated by U.S. Patent No. 6,489,223 to Hook et al. Claims 1-3, 10 and 13-15 stand rejected under 35 USC § 102(a) as anticipated by U.S. Patent No. 6,806,156 to Lenoble et al. Claims 3-4, 11 and 13 stand rejected under 35 USC § 103(a) as unpatentable over Hook et al. in view of U.S. Patent No. 6,551,871 to Takamura and/or U.S. Pub. No. 2002/0081795 to Kim et al. Claims 1, 10, 12 and 14-15 stand rejected under 35 USC § 103(a) as unpatentable over U.S. Pub. No. 2004/0087095 to Handa et al. and/or U.S. Pub. No. 2003/0220770 to Eikyu.

Claims 5-9 were objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form.

B. Claim Objections

Claims 5-9 were objected to as being dependent on a rejected base claim. Applicants have rewritten Claim 5 in independent form including the limitations of Claim 1. Accordingly, Applicants respectfully request that the objection to Claims 5-9 be withdrawn.

C. Claim Rejections

1. Claims 1, 2, 10 and 13-15 Are Patentable Over Hook et al.

Applicants respectfully request reconsideration of the rejection of Claims 1-2, 10 and 13-15 as anticipated by Hook et al. for the reasons explained below.

With regard to claim 1, the Official Action asserts that Hook et al. disclose forming pocket regions in a semiconductor substrate by implanting impurity ions using the gate electrode layer 12a and the blocking pattern 18/19 of Fig. 2c as an ion implantation mask. Official Action, p. 3. However, Applicants note that Hook et al. teach that in structures in which the blocking pattern 18/19 is provided, no pocket regions are formed in the substrate adjacent the blocking pattern. As stated in Hook et al., "Source/drain regions 54, 56 of gate 12c shown in FIG. 3c are formed with vertical implants and have no LDD regions or halo regions underneath either corner 22 or corner 28 due to the presence of barrier 18 and barrier 19 blocking LDD and halo ion implant beams." Hook et al., col. 6, ll. 13-17 (emphasis added). As will be explained in greater detail below, in contrast to the recitations of Claim 1, the blocking pattern 18/19 of Hook et al. prevents the formation of pocket regions adjacent the channel. Thus, Hook et al. actively teach away from forming pocket regions using a blocking pattern as an ion implantation mask as recited in Claim 1.

Hook et al. teach the formation of different symmetrical and asymmetrical devices on the same chip using non-critical block masks and angled implants. See Hook et al., Abstract. A barrier is selectively formed adjacent one side of a structure and this barrier blocks dopant implanted at an angle toward the structure. Id. In order to block halo implants, a barrier may be positioned a maximum distance d from the gate and still protect a lower corner of the gate 12b from an ion implant beam. Hook et al., col. 4, ll. 46-48. In contrast, when halo implants are desired, no barrier is used. Id., col. 4, ll. 25-27. Thus, in a structure 13a without barriers, halo and LDD regions are formed on both sides of a gate. See, e.g., Hook et al., Figs. 1a, 2a and 3a. In a structure 13c with barriers on both sides, neither halo nor LDD regions are formed. See, e.g., Hook et al., Figs. 1c, 2c and 3c. In a structure 13b with a barrier on one side of the gate 12b, an LDD or halo region may be formed on the other side of the gate. See, e.g., Hook et al., Figs. 1a, 2a and 3a. Where it is desired to have an LDD region on one side of the gate and a halo region on another, two mask steps are required to separately provide a

barrier on one side of the gate for the LDD implant and then a barrier on the other side for the halo implant. Hook et al., co. 5, ll. 45-49.

In contrast to the teachings of Hook et al., Amended Claim 1 recites forming pocket regions in the semiconductor substrate by implanting impurity ions at an oblique tilt angle into a surface of the semiconductor substrate between the blocking pattern and the gate electrode layer using the gate electrode layer and the blocking pattern as an ion implantation mask.

To the extent that Hook et al. teach that a barrier pattern 18/19 blocks the formation of LDD and/or halo regions on a side of the gate on which the barrier is located, Hook et al. do not disclose or suggest the recitations of Claim 1.

Applicants respectfully request that the rejection of Claim 1 as anticipated by Hook et al. be withdrawn. Applicants further submit that Claims 2, 10 and 13-15 are patentable over Hook et al. at least as per the patentability of Claim 1.

2. ***Lenoble et al is Not Prior Art.***

Applicants respectfully submit that Lenoble et al. does not provide a proper basis under 35 U.S.C. § 102(a) for rejecting any of Claims 1-3, 10 or 13-15. Lenoble et al. was filed on June 4, 2003, while the present application was filed on February 17, 2004 and claims priority to Korean Patent Application No. 2003-10323, which was filed on February 19, 2003. In accordance with MPEP §201.13, an Applicant may rely on foreign priority to overcome the effects of an intervening reference. To perfect Applicants' priority claim, Applicants submit herewith a certified English translation of Korean Patent Application No. 2003-10323. Accordingly, Lenoble et al. is not prior art to any of Claims 1-3, 10, or 13-15, and accordingly Applicants request allowance of the pending claims.

3. ***Claims 3-4, 11 and 13 Are Patentable Over Hook et al. In View Of Takamura and/or Kim et al.***

Applicant respectfully submits that Claims 3-4, 11 and 13 are patentable at least as per the patentability of Claim 1.

4. Handa et al. is Not Prior Art

Applicants respectfully submit that Handa et al. does not provide a proper basis under 35 U.S.C. § 103(a) for rejecting any of Claims 1, 10, 12 or 14-15. Handa et al. was filed on August 26, 2003. As noted above, the present application was filed on February 17, 2004 and claims priority to Korean Patent Application No. 2003-10323, which was filed on February 19, 2003. Applicants' claim of priority has been perfected as provided above. Accordingly, Handa et al. is not prior art to any of Claims 1, 10, 12 or 14-15, and accordingly Applicants request allowance of the pending claims.

5. Claims 1, 10, 12 and 14-15 Are Patentable Over Eikyu

The Official Action states that it would have been obvious to one of ordinary skill in the art to provide the Applicants' admitted prior art with the blocking pattern as taught by Eikyu because the blocking pattern of Eikyu would provide forming the pocket regions to set the minimum shadowing margin within the range in which the electric characteristics of the MOS transistor are not deteriorated. Official Action at 8.

Applicants respectfully submit that, even if combined with the description in the background section of the present application, Eikyu would not teach or suggest the recitations of Amended Claim 1. In particular, Claim 1 has been amended to recite forming a device isolation region on the semiconductor substrate surrounding the lightly doped drain regions adjacent the gate electrode layer. In addition, Claim 1 has been amended to recite forming a blocking pattern on the semiconductor substrate, the blocking pattern being adjacent and spaced apart from the gate electrode layer a predetermined distance and exposing portions of the semiconductor substrate adjacent sidewalls of the gate electrode layer and extending over the device isolation region and onto the lightly doped drain regions adjacent the gate electrode layer.

In contrast, the photoresist pattern 35 of Eikyu is formed only on the isolation region 34 and is spaced away from the source/drain regions 31. Accordingly, Applicants respectfully submit that Eikyu does not teach or suggest the recitations of Amended Claim 1, and request that the rejection of Claim 1 as unpatentable over Eikyu be withdrawn. Applicants further submit that Claims 10, 12 and 14-15 are patentable over Eikyu at least as per the patentability of Claim 1.

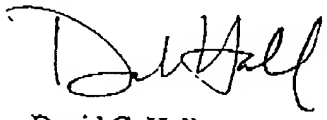
D. Objections to the Title and Drawings

The Official Action required a new title. Applicants have amended the title of the application in accordance with the Examiner's suggestion. The Official Action also objected to Figure 1. Figure 1 has been revised to identify the figure as prior art. A replacement sheet including the revised Figure 1 is included herewith.

CONCLUSION

In light of the above remarks, Applicants respectfully submit that the above-entitled application is in condition for allowance. Favorable reconsideration of this application is respectfully requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (919) 854-1400.

Respectfully submitted,



David C. Hall
Registration No. 38,904

USPTO Customer No. 20792
Myers Bigel Sibley & Sajovec
Post Office Box 37428
Raleigh, North Carolina 27627
Telephone: 919/854-1400
Facsimile: 919/854-1401

CERTIFICATION OF FACSIMILE TRANSMISSION UNDER 37 CFR § 1.8

I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent and Trademark Office via facsimile number 571-273-8300 on December 14, 2005.

Traci A. Brown